

to have been reached in half-a-day's paddling. But in Wallace's time the Temb  and Tur u ras Indians had their "malocas" considerably lower down the river than at present, and it was easier to reach them than it is now.

Dr. Selater calls the river Capim "a small river issuing into the Rio Par , near the city of Par " (*op. cit.* p. 567). This is quite a mistake, as the Capim River, which measures fully a kilometre in breadth at its mouth, and not less than from 50 to 60 metres at Poço Real and the waterfalls near Acar u aua in lat. $3\frac{1}{2}^{\circ}$ S., and is, moreover, navigable during many weeks for steamers, ought not to be classed as an unimportant and inconsiderable stream. But compared with some others of the great tributaries of the Amazon such as the Tocantins, Xing , and Tapaj z, the Capim River certainly plays a secondary part.

I have done all in my power to give a complete sketch of the bird-life on the Capim River, beginning from the results of Wallace's visit in 1849. This may be allowed to be a useful attempt to form a special and somewhat elaborate picture of the ornithological features of a circumscribed portion of the interior of the State of Par , but will be still more useful, I agree, in the case of its being followed by a series of similar sketches of other localities constructed on the same principle.

It is an agreeable duty to me to state again that the constant help which I have had from Dr. Selater, whose never-ceasing interest in the Neotropical Avifauna is evidenced by a whole series of monumental works, shews that he does not feel the trouble which I am always causing him by my requests for the determination and identification of bird-skins, the comparison of which with type-specimens seems to me to be indispensable for careful work.

II. NARRATIVE OF THE JOURNEY.

Embarking at Par  at 7.15 A.M. on the 15th of June, 1897, in fine weather, on the steam-launch 'Lauro Sadr ,' usually engaged on the Immigration Service and lent to me by the Government, we traversed the distance to Fazenda Approaga

in nine hours, a very good performance, due to an efficacious full-moon tide, as ordinarily the steamers take twelve hours. At São Domingos we passed a spot interesting as shewing in a most striking manner the corroding action of a "pororóca" (bore) on the earth-wall of the river; it is situated just at the confluence of the rivers Guamá and Capim. We reached, at 1.40 P.M., Approaga, formerly a very important agricultural domain, belonging to our hospitable friends the family Vicente Chermont de Miranda. It is situated on the Capim some hours journey higher up, being separated from the small village of St. Anna do Capim by about the same distance—that is, more or less, an hour's journey—as the Fazenda Calixto, where Mr. Wallace stayed in 1849, further up the river. We arrived between 4 and 5 P.M., and sent back our steam-launch to Pará the same evening.

During this first day's course few zoological observations of any importance were made, for reasons easily understood. In the forests on the left and on the right bank animal-life is the same as elsewhere in the vicinity of Pará under similar circumstances. But during the hot hours of the day there is naturally very little chance of getting even a glance at animal or vegetable life, which is hidden from human eyes by the silent shade of the virgin forest. Animal life is certainly not absent, but is latent during these hours, and, if its presence is to be ascertained, requires to be searched for patiently. This is the reason that the mere tourist generally gets a rather meagre idea of the celebrated luxuriance of animal life in equatorial regions—an idea that I have often found apt to induce a want of belief in the veracity of the brilliant sketches of tropical nature contained in the works of some of our best authors. To understand an equatorial fauna and to know how to investigate it need some training.

The first bird we saw on this occasion was a large bird-of-prey describing magnificent circles in the height above us, which was easily recognised as *Urubitinga schistacea*. Soon afterwards we saw two other specimens at the same time acting in a similar manner, evidently in reconnaissance of some dainty bit for breakfast. This was about 9 o'clock.

Among the lower vegetation of the banks we noted from time to time the Hoatzin (*Opisthocomus cristatus*), stupidly frightened and flying heavily into more sheltered quarters. It is a common bird all along the Lower Capim, being met with in flocks of from ten to twenty or more. It feeds hereabouts especially on "Anhinga" (*Montrichardia arborescens*), a large Caladium-like aroid, and on "Aturiá" (*Drepanocarpus lunulatus*), a low bush of the family Leguminosæ, with recurved stinging-spines all over its branches and involved, flat, siliculous fruits. Once we saw a flock of four Muscovy Ducks (*Cairina moschata*) crossing the river.

When we arrived at Approaga the black cook of the fazenda, who had been sent out shooting in the forest, brought home, besides a "Cutia" (*Dasyprocta croconota*), a good specimen of the Red Arára (*Ara macao*). This I was inclined to take for a good omen, as these birds are getting rare in the neighbourhood of the city of Pará.

Approaga is certainly the most important agricultural station on the River Capim. It is pleasantly situated on the border of the river to the right, on a somewhat elevated spot, which is rendered necessary by the "pororóca."

A large white house connected with a lower mass of farm-factory buildings, the whole rendered visible far off on the riverside by four old and tall royal palms (*Oreodoxa oleracea*) and the long chimney of the engine, gives to the domain an aspect imposing as well as agreeable. Coming nearer you will soon understand that it is a "Feudum," suddenly interrupted in the course of prosperity, like thousands of similar fazendas all over the former Brazilian empire, by the suspension of slavery. Externally and internally signs of the rapid cessation of a former activity are seen at every step. It has evidently been one of those important possessions which were still in a prosperous condition when Wallace visited the region about the middle of the last century.

Around the fazenda there is a cleared space, already covered by a tolerably high weed-vegetation. Some negro families inhabiting a series of dilapidated cottages behind

the central buildings seem to be equally afraid of strangers and of work. I obtained there, as well as on many other similar occasions, a very unfavourable idea of these relics of the slavery period. They are generally too lazy for anything except rum-drinking. I received the impression that the moral level among the coloured element on the river Capim is at present lower than that of the free and independent Indians on the headwaters.

Approaga was our headquarters on the Lower Capim. Here, most hospitably treated by Civil-Engineer Sr. Vicente Chermont do Miranda, who had come out from Pará especially for the purpose, and by Major Ayres, his Administrator, we lived, from the 15th to the 24th of June, hunting, collecting, and preparing ourselves for the expedition to the headwaters of the river.

During these nine days I had an opportunity of acquiring a general notion of the ornithological features of the district, so near to that visited forty-eight years before by Wallace. On the very first evening my attention was called to a colony of from twenty to thirty examples of *Cassicus persicus*, with their hanging nests distributed over three "páo d'arco" of moderate height. The birds were building at this season, using, as the people told me, both dry grass and split palm-leaves. I was also told that the "Aráras" (Macaws) had young at the time. In the palm-trees in front of the fazenda was a continuous movement of glittering Tanagers (*Tanagra palmarum*) and other Passerine birds. The small and never quiet Wren (*Troglodytes musculus*) was always to be found busy on the roof of the house, and also in the vast arched basement and in the empty engine-rooms. On the bridge of the landing-place was a favourite resting-corner of some graceful Swallows, particularly *Tachycineta albiventris*; various Kingfishers passed up and down the river, the large *Ceryle torquata* being easily recognised by its size and its penetrating war-cry. From the nearer forests behind the fazenda and on the opposite side of the river we frequently heard the melodious whistling of the White-breasted Toucan (*Rhamphastus erythrorhynchus*), the deafening noise made

by various Parrots, among them especially the "Curica" (*Chrysotis amazonica*) and the monosyllabic soft song of the "Inambú-relojo" (*Crypturus strigulosus*), comparable to an elongated "fū" (in the same pitch as the second note of the dissyllabic song of *Diplopterus navius*).

On the 16th of June my attention was principally directed to observation of the "pororóca," which was expected at 3.10 P.M. I made several photographs of it, but it was not so marked as two days before, the wave attaining a height of only one metre. The ornithological increase of our collections consisted only of a specimen of *Geotrygon montana* and a small Tyrant-bird. On the 17th of June the results were more considerable:—*Troglodytes musculus*, *Todirostrum cinereum*, *Cassicus persicus*, *Geotrygon montana*, *Thryothorus genibarbis*, *Chloronerpes flavigula*, *Bucco hyperrhynchus*, *Penelope superciliaris*, and *Monasa nigra*.

Early that morning I made a trip to a small artificial lake, formerly the reservoir for the farm-factory. In the tangled vegetation of its borders I immediately recognised a bird's cry, well known to me in Pará, especially in the swampy parts of the forest, where it is called "Igapó." This cry is heard everywhere in similar localities so regularly that I named it the "Igapó-cryer." The bird is by no means easily discovered, but I know it to be *Thryothorus genibarbis* (Swainson's Moustached Wren). Approaching the negroes' cottages, I noted in the higher trees many Tanagrine forms (*Tanagra palmarum*, *Rhamphocelus jacapa*, *Calliste*) and smaller Fringillines (*Spermophila*), which formed perhaps four-fifths of the bird-flocks here met with. Among the lower shrubs were quietly climbing dark-coloured Formicarians (*Thamnophilus*) with several species of *Synallaxis*, only seen for a moment, and always disappearing before they could be shot. Parrakeets cried in the forests, coming and going in rapidly-flying flocks, always disposed to discussion and noise. I was told that the Aráras were fond of the flowers of the Acapú-tree (*Andira aubletii*), which furnishes a wonderfully hard, dark, and almost indestructible wood, used on a large scale in Pará, and formerly often exported from the Capim

and Acará Rivers. Along the river flew charming Swallows (*Tachycineta albiventris* and *Atticora fasciata*), while around the buildings flitted *Progne tapera*. The "Tangurú-pará" (*Monasa*) was indefatigable in producing its strange song in the Genipapó-tree near the windows of the dining-room. Having now had many opportunities of studying this song, I may remark that the "ho-tiü," as described in my "Ornithological Results of a Visit to South Guiana" ('Ibis,' 1897, p. 158), is only the initial prelude. The song then changes into a more energetic "hūri-tūri, hūri-tūri," uttered with increasing rapidity, and finishes with a sound like "til-til," frequently repeated, representing the acme of ecstasy. It is evidently the effect of a mutual suggestion, as these mysterious birds are decidedly social, and generally meet in flocks of half-a-dozen or so.

On the same day I myself shot specimens of *Euphonia violacea*, *Progne tapera*, *Volatinia jacarini*, *Tachyphonus melaleucus*, and of a large strong-billed Fringilline bird. Among the flowering shrubs behind the factory I observed *Hylocharis sapphirina* and another Humming-bird with whitish vent; in the trees around the buildings were *Tanagera episcopus* and several kinds of small yellowish and greyish Tyrannids. This most confusing group, which is developed in the Neotropical Avifauna in strange abundance, forms a real "crux" on account of the deceptive similarity of its various forms and the absence of any really striking external characters. We may fairly say that we know almost nothing about this family, which is the New World equivalent for the Old World Muscicapidæ, and contains more than 400 species, of which at least 112 are found within the Amazonian subregion.

Both at morning and evening are heard in the river-forests the calls of the "Saracúra" (*Aramides chiricote*) and of two species of Tinamou—*Crypturus strigulosus* ("Inambú-religio") and *C. pileatus* ("Sururína"). My hunters brought me specimens of *Selenidera gouldi*, *Crypturus variegatus* ("Inambú-saracuirá"), *Monasa nigra*, *Ortalis araucana*, and of a young "Arapapá" (*Cancroma cochlearia*).

On June 19th I included in my collections *Thryothorus genibarbis* ("Igapó-cryer"), a female *Pipra*, probably belonging to *P. leucocilla*, and a species of *Thamnophilus*. I had also occasion to observe *Coturniculus manimbe* and *Cæreba cyanea*.

On Sunday, June 20th, during a walk in the forest, I saw plenty of Black-and-white Mannikins (*Chromacheris manacus*) and constantly heard their strident penetrating "br-r-r-r" around me. The males, however, seem particularly timorous. We obtained examples of *Euphonia violacea*, *Brotogerys tuipara*, *Chelidoptera tenebrosa*, *Columba plumbea* (here called "Pomba gallega"), and *Rhamphastus ariel*. The beautifully orange-marked *Brotogerys tuipara* was observed opening the fruits of a gigantic Mongúba-tree (*Bombax monguba*) in search of the seeds, and its crop was filled with masses of the substance thence procured. The same predilection for Mongúba-seeds I had already observed several times in Pará.

On June 21st, in the same direction, I again noted *Chromacheris manacus* (still very timorous), *Monasa nigra*, *Synallaxis rutilans*, and along the river *Ceryle torquata* and *C. americana*.

Around Approaga were normally to be seen some five or six individuals of the Yellow-headed Raven-Vulture (*Cathartes urubitinga*), and often an equal number of common Black Raven-Vultures (*Cathartes urubu*). I added to our collection *Chamæpelia passerina*, *Piaya cayana* (here called "Chincoã"), *Rhamphastus ariel*, *Falco rufigularis*, and *Columba speciosa*.

On June 23rd, during the night (9.10 P.M.), I heard distinctly the characteristic cry of the "Urú" (*Odontophorus guianensis*) from the forest on the left bank of the river, and also, at dusk and afterwards, the not less loud, but less harmonious, call of the "Aracuã" (*Ortalis aracuan*).

The small Finches *Spermophila gutturalis* and *S. hypoleuca* constantly sang on the higher branches of the trees around the buildings. For the first time I saw this morning four of the smaller "Anús" (*Crotophaga ani*) crossing the river

from left to right. In the shady gallery under the house I captured a living specimen of *Pipra auricapilla*, ♂, a charming black-and-crimson-headed little bird, which had ventured to visit this spot.

On June 23rd our steam-launch, the 'Ondina,' arrived at night, too late to depart till next day.

From the 24th to the 30th of June we were steaming up the river on board our strong and comfortable launch, stopping only during part of the night, when complete darkness did not permit our going forward without risk. The first day we arrived at Sitio Saõ Luiz, the private property of Major Ayres, our guide; the second at "Cupijó-tapéra," an old settlement of Tembé Indians, now abandoned. In my notebook I find the following entries referring to ornithological observations made on board:—*Tachycineta albiventris*, *Ardea virescens*, *Calidris arenaria*, *Urubitinga zonura*, *Milvago chimachima*, *Cathartes urubu*, *Ceryle torquata* and *C. americana*, *Crotophaga major*, *Chelidoptera tenebrosa*, and *Cairina moschata*.

Though we had already passed out of the zone of civilized men and entered far into the district inhabited by half-civilized Indians only, the richness of bird-life, both in species and individuals, was at first not very great, but increased almost imperceptibly from day to day. I may explain that the Lower Capim, inhabited by a white and coloured population, is divided from the true Indian district of the headwaters by a wide space absolutely devoid of human residents, though it was thinly populated up to some twenty or thirty years ago by Tembé and Turýuára Indians. Their abandoned settlements, called "tapéras," are easily recognised by the clearings in the high forest, now occupied by shrubs and low trees, and produce a very melancholy impression on the mind of the visitor.

The constant occurrence of extensive "tapéras" enables us to see that the avifauna has not yet become again equal in richness to that of the virgin forest. Two forms of bird-life prove this immediately by their striking frequency—*Chelidoptera tenebrosa*, the quiet and melancholy

“urubusinho,” and *Falco rufigularis*, the pseudo-“cauré.” The other birds cited above are what I might call “ubiquitous river-forms,” and the series does not contain elements characteristic of any particular portion of the Amazonian subregion.

Early the next morning, June 26th, between 7 and 7.30 A.M., we were at the mouth of the second of the more important affluents of the Capim River, the Potyretá. I noted this day the following birds:—*Falco rufigularis*, *Sarcophamphus papa*, *Ceryle torquata*, *Plotus anhinga*, *Ardea leuce*, and *Lathria cinerea*. We passed the night near the sandy “Praia de São Miguel,” some hours above the mouth of the right-hand affluent, the Cauachý.

On June 27th, in the morning, *Plotus anhinga*, *Falco rufigularis*, *Tachycineta albiventris*, and *Atticora fasciata* were noted. An important bird, long wished for, was seen for the first time on the journey—the large blue Hyacinthine Ara (*Anodorhynchus hyacinthinus*). It seems to inhabit the upper part of the rivers in Lower Amazonia and Guiana, particularly in the vicinity of the rapids (“cachoeiras”).

We arrived at 1 o'clock P.M. at “Acarý-uçáua.” This is at present the principal settlement of those Tembé Indians who inhabit the Capim River and the country between the Capim and the higher branches of the Acará. The “Tucháua” (chief) was absent, having gone to the upper river with a number of young men in search of copaíba-oil, but we requested the remaining Indians to help us in procuring firewood for our steam-launch.

During the afternoon I heard and saw *Pionias violaceus*, *Cathartes urubitinga*, *C. urubu*, *Chelidoptera tenebrosa*, *Tachycineta albiventris*, *Falco rufigularis*, *Asturina magurostris*, *Ardea cocoi*, *Atticora fasciata*, and what I believe to have been *Cotile riparia*. Bird-life here had become decidedly more abundant and more interesting.

“Acarý-uçáua” is a village of some 20 huts of Tembé Indians, situated on an elevated plateau on the left bank of the Capim. As its height is rather considerable for the

country (from 8 to 10 metres), the visitor has to climb by a ladder from the bank to the summit, and thus gets an idea of the great difference of the water-level in the dry and the rainy seasons. A good view is here obtained of the river-landscape below, especially of the forest of spiny Jauarý palms, "jauarizál" (*Astrocaryum jauary*), on the opposite side. Considerable numbers of "Tangurú-pará" (*Monasa nigra* and *M. morpheus*) inhabit the surroundings of this genuine Indian settlement, and by their singular concerts, combined with the old indigenous traditions, give a peculiar idyllic feature to it. I received the impression there that these birds are fond of the neighbourhood of the red man, and that the red man in his turn loves and respects the birds, and I can understand this mutual sympathy—they are both equally mysterious! We passed a bad night on the maloca, owing to the mosquitoes, which were abundant and sanguinary—a strange thing, as generally we had nothing to suffer from this plague anywhere on the expedition.

We continued our journey early in the morning of June 28th up the river with the steam-launch, now freshly provided with several thousand logs of wood, as we intended to go at least as far as the confluence of the two head-rivers of the Capim, the "Surubiú" and the "Ararandéua." About 10 A.M. we arrived at the lowest falls—an anxious moment for us, as we expected to obtain there with our own eyes evidence whether we could continue our trip in the launch or not. The result was unsuccessful; there was not more than $5\frac{1}{2}$ feet of water in the only passage between the rocks, and the steam-launch 'Ondina' required fully $6\frac{1}{2}$ feet. We soon recognised that we had arrived a month too late, and that there was no other plan than to stop here with our expedition. Anchoring with the launch at the foot of the falls, we tried to make the passage in our boats, and continued our reconnaissance of the river upwards for some hours.

The rest of the 28th and the whole of the 29th of June we remained at this spot, collecting and hunting zealously. The list of birds observed became sensibly richer here,

and the other collections also increased considerably, owing principally to the help of the experienced Tembé Indians, of whom we had half-a-dozen in our company. *Crotophaga major*, *Falco rufigularis*, *Ceryle* (of several species), *Cassicus persicus*, *Cotile riparia*, *Tachycineta albiventris*, *Atticora fasciata*, *Monasa nigra* and *M. morpheus*, *Columba plumbea*, *Ara serena* and other small species of *Ara*, *Anodorhynchus hyacinthinus*, *Pionias violaceus*, *Odontophorus guianensis*, *Crypturus strigulosus*, and *Rhamphastus erythrorhynchus* were among our spoils.

The Tembé Indians, especially attentive to the larger birds for the kitchen, brought in from their hunting examples of *Crypturus strigulosus*, *Psophia obscura*, and a large Woodpecker, but in too bad a state to be of use for our collections.

I myself visited the surrounding forest, and became really impressed by its varied and extensive bird-life. It was impossible to determine in many cases all the bird-forms which emitted strange sounds high above our heads in the summits of the gigantic forest-trees, hammered on the branches and on the trunks, and climbed in the foliage of the lower vegetation. True Woodpeckers (Picidæ), as well as the pseudo-Woodpeckers of the family Dendrocolaptidæ, were represented in dazzling multiplicity, and every ornithologist acquainted with the neotropical avifauna will easily understand the extraordinary difficulty which I feel in giving an absolutely exact description of all that may be seen and heard in an Amazonian forest. There is one means only of obtaining full certitude—the “ultima ratio” of bringing specimens down with powder and shot.

On the evening of the 30th of June we returned to Poço Real, a recently commenced plantation of the Tembé Indians about an hour distant down the river. In the morning of the next day we sent the steam-launch ‘Ondina’ back to Pará with part of the collections and some living animals. We were thus left entirely to ourselves, and lived from the 30th of June to the 5th of July along with the Tembés, of whom about a dozen families were assembled there, occupied with their “roças” (plantations) of mandioca and other food.

I shall never forget this week spent among the Indians. It was a most instructive period for us as regards natural history, as well as for ethnography and linguistics.

Poço Real is nothing more than a simple clearing in the forest on a plateau of the river-bank, upon which are scattered a dozen more or less provisional cottages. One of these was lent to us during our stay by its proprietor (a Tembé Indian whose wife was of the Turýúára tribe), and was transformed into our expeditionary headquarters.

The multitude of Parrots and Macaws (among which the blue *Anodorhynchus hyacinthinus* was a daily visitor) at this solitary spot was a good omen for ornithological work. The concert of birds' voices every morning and evening, partially extending into the night, which struck our ears, coming from the low "jauarizál" on the opposite side of the river and from different parts of the forest behind and around us, was quite sufficient to captivate an ornithologist. Employing on an average ten or twelve experienced Indian hunters every day, and hunting and collecting ourselves, the daily result was a mountain of mammals and birds and of all kinds of objects of natural history.

On the 30th June we entered in our lists of collections:—*Ara chloroptera*, *Neomorphus geoffroyi* (Indian name "Acá-netíka"), *Chelidoptera tenebrosa* ("Taperá-perúna"), *Monasa morpheus* ("Zuní"), *Mionectes oleagineus*, and a large-billed Finch with a red-and-black cap, probably *Pitylus erythromelas*.

On the 1st of July we obtained examples of *Deroptyus accipitrinus*, *Rhamphastus ariel*, *Selenidera gouldi*, *Odontophorus guianensis*, *Pipile cujubi*, *Crypturus variegatus*, and *C. strigulosus*. A Kingfisher (*Ceryle torquata*), a *Lathria*, and both sexes of *Phlogopsis nigromaculata* were collected in too bad a state for preservation.

On the 2nd of July I find these names mentioned in my notes—*Piaya macrura*, *Thryothorus genibarbis*, and *Glyphorhynchus cuneatus*, besides a multitude of smaller birds of different families, among which the Yellow-breasted Swallow (*Stelgidopteryx ruficollis*) was of special interest.

We noticed that early in the morning and in the evening, for about an hour, groups of some twenty or thirty small Swallows exercised their mosquito-hunting faculties above the "roça," and disappeared afterwards. They were the two often-mentioned River-Swallows and *Stelgidopteryx*.

On July 3rd we obtained *Anodorhynchus hyacinthinus* (one living example of which we brought to Pará), *Urubitinga* sp. inc., *Pipile cujubi*, and *Rhamphastus erythrorhynchus*. This day and the next I was principally employed in collecting ants and spiders, in taking photographs, and in preparing linguistic notes on the Tembé language.

One of the birds that occupied much of my attention was *Neomorphus geoffroyi*, a large forest Cuckoo, not very rare on the higher Capim. The Tupí name for it is "Tajaçú-uirá," that is, the bird of the "tajaçú-hog" (*Dicotyles tajaçu*); the Tembé Indians, however, call it "Aká-netíka"—that is, "(the bird which) nods with the head." Generally several individuals are met with together in the deep forest, and all the information that I obtained from the Indians about its life and customs agrees with my own. It has the habits and manners of a Formicarian bird, following the Eciton ant-armies and mingling in the flocks of *Phlogopsis*, *Rhopoterpe*, *Formicarius*, *Pyriglena*, *Myrmeciza*, and other ant-birds. It is therefore often met with on the ground.

At Poço Real I also had an opportunity of taking the first steps towards clearing up a confusion about certain species of Amazonian Cracidae, a matter to which I will return later.

During the night of the 4th of July our Tembé Indians organized a dancing festival, called by them "hé-ira," on a clear space in the centre of the plantation near the river-bank. They danced, sang to the rhythm of their "maracá" (rattle), smoked their gigantic cigars (about 2 feet long), and drank with much "entain" till the morning of the next day.

But the same morning at 4 o'clock we embarked in three canoes on our return voyage. We were accompanied by a young Indian, who had been lent to me by his mother for

some weeks. During the first day of our rowing downwards I observed *Ibycter americanus* (several times), *Plotus anhinga*, *Ardea leuce*, and *Geronticus infuscatus*.

Arriving at a sandy spot called "Praia do Ipomonga," we resolved to pass the night there. Our hunters brought, after some delay, a *Tinamus solitarius* (called "Inhambú-péua" in Tupí, but our Tembés called it "Inamuhú," that is, "the large Inhambú") and a large black Eagle (*Urubitinga zonura*). *Ibycter americanus* is one of those birds that does not require much time to make itself known anywhere. Its cry is a violently-expelled "ha-cã-cã-cã-cã," some eight or ten times repeated with diminishing intensity, and is really likely to terrify the visitor who hears it for the first time,—all the more so as several of these brilliantly coloured birds-of-prey are generally found in the same place and cry together or alternately. The Indians told me that *Ibycter americanus* feeds especially on wasps; it seems to be a New World representative of *Pernis apivorus*. But we fed a "Canean" that we brought alive to Pará with small birds. It was an old, savage, and sturdy individual, darting deadly hate from its blood-coloured eyes, and gave us much trouble. *Ibycter americanus* seems to appreciate the solitary Indian "tapéras"; it was a daily visitor during our journey.

On July 6th, early in the morning, we reached the mouth of the "Cauachý," one of the most important right-hand affluents of the Upper Capim, where we had previously resolved to establish our headquarters for some days. This is an absolutely deserted locality, no human creature being met with in a circuit of several days' journey around. The "Cauachý" was some 24 metres broad, and its depth was found by us to be from 4 to 5 metres in the middle. We spent four days in this solitary spot, rich in animal life of every kind, hunting, fishing, preparing specimens, and taking notes.

I observed here *Cancroma cochlearia*, *Ostinops decumanus*, *Monasa morpheus*, *Eurypyga helias*, *Ceryle* of several species, *Lathria cinerea*, *Tigrisoma*, *Falco rufigularis*, *Urubitinga zonura*, *Ibycter americanus*, and *Tinamus solitarius*. Every night we heard in the forest around us the voice of *Nyctibius*

jamaicensis (the Giant Goatsucker). Its cry is "fö-fi-fi-fi-hū-hū-hū," the second part expelled slowly and so lengthened that it is generally the only sound heard, while the first part is audible only when the bird is quite near.

Among the smaller species observed here, I noted two yellowish Tyrannids, *Lathria*, one small blackish *Thamnophilus*, *Thryothorus genibarbis*, *Tachycineta albiventris*, *Atticora fasciata*, and *Stelgidopteryx ruficollis*. The acquisitions of the larger forms of birds were more important, as shown by the following list:—*Mitua mitu*, *Penelope superciliaris*, *Crax fasciolata*, *Urubitinga zonura*, *Ibycter americanus*, *Trogon viridis*, *Tinamus solitarius*, *Falco rufigularis*, and *Psophia obscura*.

The Trumpeters (*Psophia*) collected on the Upper Capim River proved to be of a certain importance in clearing up doubts about the specific distinctness of *P. viridis* Spix and *P. obscura* Natterer, especially concerning the validity of the latter, which was doubted even as recently as the date of vol. xxiii. of the British Museum Catalogue*. Regarding these "Jacamins" (charming creatures, of which I succeeded in bringing two living specimens to Pará), a droll story may be related. One of my Indian hunters brought me one of these "Jacamins," dead. At first sight I was agreeably surprised, but was much disappointed on discovering that the bird had its legs cut off. Blaming the Indian, I enquired the reason of such a barbarous act. The Indian's reply was: "I considered that the legs were too long, and being good for nothing, I thought it better to cut them off." I was at once disarmed by this naive explanation, characteristic of the ingenuous mind of these people, so different from ours.

At their homes our Tembé Indians were always clad in a pair of short breeches, at least when in our company, but as soon as they entered the forest they always took these garments off, and, rolling them up into a small packet, fastened them by means of a liane round their bodies, and remained entirely naked. When asked the reason of doing this they informed me that it was in order to protect

* Cf. Scater, *Ibis*, 1898, p. 320.

the breeches, a rather expensive article, from being torn to pieces by the thorns, with which the forest was always supplied. Naturally I was highly amused by this original appreciation of the greater value of a pair of breeches than of a man's skin.

I will now say a word on the Tinamidæ observed during our Capim expedition, especially as regards the popular and Indian names for the different species, which were four in number.

1. *Crypturus pileatus*, the smallest, is generally called "Sururína" on the Capim River, as well as around the city of Pará. The word is evidently a Tupí word with a Portuguese termination. The Tembé Indians pronounce the word in the somewhat abbreviated form of "Sururý."

2. *Crypturus variegatus* is called by the pure Tupí-speaking tribes, such as the "Turyuáras," "Inhambú-anhánga"—that is, "Tinamou-demon." The Tembé Indians call it "Inamúsaracuíra."

3. *Crypturus strigulosus* is called by the non-Indian population of Lower Amazonia "Inhambú-relojo" (tinamou-watch). The Tembés in the interior of the State of Pará call it "Inamúpéua-hý"—that is, the "smaller Tinamou with flattened breast."

4. *Tinamus solitarius*, the largest form, bears the Indian name "Inhambúpéua"—that is, "Tinamou with flattened breast." Our Tembés called it, however, "Inamúhú," which means "the large Tinamou."*

I may add that all the Tinamous have an excellent whitish-coloured muscular breast-flesh, equally good to eat whether boiled or fried, and so tender and nutritious that it is considered all over Brazil a suitable dish even for sick persons. Naturally, therefore, the Tinamidæ figure here among the first-class indigenous game-birds. *Crypturus pileatus*, the "Sururína," is the most popular member of the

* I met with the same bird in the coast-region of South Guiana with the native names of "Inhambúserra" and "Inhambútoró" (see my "Results of a Naturalist's Visit to the Coast-Region of South Guiana," 'Ibis,' 1897, p. 156).

group at the mouth of the Amazon, and without doubt it should be considered the true Amazonian equivalent and representative of *C. tataupa* of Southern Brazil, well known in the State of Rio de Janeiro and neighbouring districts.

Another ornithological result of our Capim expedition was the long-desired clearing-up of the *Crax pinima* problem, dating from the time of Natterer, and the critical revision of a series of allied species, always more or less doubtful, of Cracidae. Some of these results have already been announced in a provisional manner by Dr. Selater in a short note in 'The Ibis'* and by myself †. This is a good opportunity of giving some details on the question.

Natterer had obtained in 1835, at Praia do Cajutúba, Pará, a female specimen of a "Mutúm," which was there called by the Indian name "Mutúm-pinima"—that is, Spotted (or Painted) Curassow. He made of it a new species with the name *Crax pinima*, though it seems from v. Pelzeln's extracts from Natterer's original notes that he was somewhat in doubt whether it was not merely the female of *Crax sclateri* Gray = *Crax fasciolata* Spix.

The type-specimen of *Crax pinima* was first described by v. Pelzeln (Orn. Bras. p. 341) in 1871, and Natterer's MS. name was adopted.

After that time several naturalists who were treating of South-American Cracidae (Gray, Selater and Salvin, Ogilvie-Grant) wrote about *Crax pinima*, identifying with it certain individuals more or less agreeing with v. Pelzeln's description. But it must be repeated that these birds were in every case *female individuals*, and that these individuals shewed considerable variations (leaving a large margin to conjecture as to whether they were due to specific differences or to diversities of age and maturity); and I must add that no figure in books accessible to me, not even in Dr. Selater's two most useful essays "On the Curassows

* Ibis, 1898, p. 462.

† Goeldi, 'Aves do Brazil,' Rio de Janeiro, 1894-98, p. 393.

now or lately living in the Society's Gardens,"* agrees entirely as regards colour-details with the original description, nor does any one of the three individuals recently described by Ogilvie-Grant (Cat. B. xxii. p. 477) under *Crax pinima* absolutely agree with v. Pelzeln's characters. But I have personally seen specimens entirely agreeing with v. Pelzeln's description, and I can assure my readers that the description really gives us a good idea of one of the phases of colouring of the female "Mutum-piníma" of the State of Pará. But I cannot attribute to it any higher value, and I decidedly deny to it the rank of a species.

From June 1894, the date of my arrival at Pará, till the present time a number of "Mutúms" have been received at our Zoological Garden with the popular designation of "Piníma." They all agreed more or less with the sketch or general aspect of v. Pelzeln's description of "*Crax pinima*," but in details of design—cross-barring on the abdominal side, barring of the tail-feathers, extent of dark and ochraceous colour on the upper and lower abdomen, barring of the head-crest, and other respects—they varied extremely, so much so, that every individual represented a particular phase, which by a very anxious systematist might be referred to a distinct species. By a singular chance it happened that at the Museum of Pará we never got a single male of "Mutúm-piníma," living or dead. Thus I was for several years ill at ease with the failure of my attempts to obtain the male of *Crax pinima*, but this discovery I succeeded finally in making on the Capim expedition.

At Acará-uçáua and Poço Real our Tembé Indians brought in specimens of the female "Mutúm-piníma" corresponding in colour and aspect, as well as in its Indian name, with the individuals in the Pará Zoological Gardens. Naturally the first question I put to the Indians, all exceedingly familiar with the animal life of the surrounding forests, was: "Do you know *the male* 'Mutúm-piníma'?" They replied, without a moment's hesitation, "We do know it!" "How is it

* Trans. Zool. Soc. Lond. ix. p. 273, and x. p. 543.

coloured?" I asked. "It is black, white on the belly, and yellow-billed, like the female." It will be easily understood that I made every possible effort to excite them to bring to me immediately such a male "Mutúm-piníma." They brought me some, and these birds agreed altogether with the oral information given about its exterior aspect. But I made even a further experiment. I asked the Tembé Indians, "How do you know with certainty that the birds you brought are the males of the 'Mutúm-piníma'?" They replied, "There can be no doubt, as hereabouts we have not more than two sorts of Mutúms: one is the red-billed 'Mutúm-cavallo'* , the other is the yellow-billed 'Mutúm-piníma.' And, as you know, these two sorts are easily recognised by every child, and nobody could confound them."

This reason and argument are really uncontrovertible. If, in certain districts, yellow-billed Mutúms appear always in two forms—black ones with white belly and barred ones with ochraceous undersides, and the former are always of the male sex and the latter are always of the female sex, it is manifest that the two forms belong together—that the former is the male and the latter its female. This should be sufficient, but the Indians had another even more weighty proof—the direct observation of their sexual connexion; they knew thoroughly well the details of the reproduction of the "Mutúm-piníma."

As will be seen, circumstances were particularly favourable on the Capim River for removing this old systematic "crux" about the hypothetical *Cra. piníma*, owing to the fact that there exist there only two species of Cracidæ, very easy to recognise—a red-billed and a yellow-billed species, the latter being the "Mutúm-piníma." To this circumstance, together with the especial attention I have directed since 1894 to the solution of the problem, the success must be attributed. The "Mutúm-piníma" is distributed over the interior of the Atlantic side of the right-hand Amazonian shore of the State of Pará, namely, the upper districts of the rivers Capim, Guamá, and the neighbouring parts of the interior

* This is the native name for *Mitua mitu*.

of the States Maranhão and Goyaz. From the Rio Grajahú I have seen several living individuals, and among them one almost entirely agreeing with the colour-phase of v. Pelzeln's original description of *Crax pinima*.

Thus there can remain absolutely no doubt that the name *Crax pinima*, as based only upon female specimens, should be cancelled. If asked to what species the "Mutúm-pinima" of the Pará district must belong, I reply, to *Crax fasciolata* Spix*, though Spix's figure (plate 52*a*), taken from a female, is certainly not at all fit to give a clear idea of the external features of this species.

It is therefore necessary to consider the modifications caused by cancelling *Crax pinima* among the species of Cracidæ admitted by modern ornithologists. Opening vol. xxii. of the 'Catalogue of Birds in the British Museum,' written by Ogilvie-Grant, we see (p. 477) that, according to this author, *Crax incommoda* Selater ought to be cancelled too, as synonymous with *Crax pinima*. And necessarily also the numerous species which compose the synonymy of *Crax fasciolata*, according to the views of Grant, should share the same fate, namely, *Crax sclateri* Gray, *Crax discors* Natterer †, *Crax azaræ* Natterer, and *Crax circumatus* Licht. Also *Crax nikani* Pelzeln seems to belong to this cycle of doubtful species, evidently condemned to disappear in the immediate future.

Strict rectitude compels me to state that already in 1875-1879 Dr. Selater, in his monographic essay of the Curassows living in the Zoological Society's Gardens, clearly gave us to understand his doubts as regards the validity of the species *Crax pinima*. He writes (*op. cit.* p. 281) :—"On the whole, I am inclined to believe that *Crax pinima* is founded on a female *Crax sclateri*. But I should be glad

* Plate 52*a* of Spix's work, 'Avium species novæ &c.,' Monachi, 1824, called "*Crax fasciolata*," seems to represent a somewhat dark female specimen. It may be noted that in 1875 Selater identified this figure quite rightly with *Crax pinima* of Pelzeln.

† Established on a specimen in the Berlin Museum collected at Cameté (Pará) by the German Sieber, collector of Graf v. Hoffmannsegg, in the beginning of the last century.

to be able to examine examples of both sexes of the Curassow of Pará, in order to compare it with that of Matto Grosso and Paraguay, the range being rather extensive for one species of the genus."

Not without a certain regret, therefore, I found "*Crax pinima*" restored in vol. xxii. of the 'Catalogue of Birds in the British Museum' in an official manner to its usurped dignity and rank. I hope, however, that ornithologists will now consider the matter settled for ever, and the so-called "*Crax pinima*" definitely cancelled.

On July 9th we made a reconnaissance of the upper part of the Cauachý River. It was an interesting, but at the same time a rather painful excursion, owing to the innumerable obstacles we met with, the river being constantly obstructed by big trees which had fallen from both banks. To cut through a space sufficiently wide for the passage of our boat was often a matter of more than an hour's hard work. Though we met with spots which some years ago had evidently been Indian "roças," the Cauachý at the time of our visit was absolutely deserted, no one being resident, at least on its lower course. Formerly it was inhabited by Tembés and Turyuáras, and often served as a passage from the Capim River to the headwaters of the Gurupý-mirý and neighbouring affluents of the Gurupy River.

On this day and on the 10th of July, when we were already moving downwards as far as the place called "Tracuá-téua," I observed *Heliornis fulica*, *Nauclerus furcatus*, *Asturina magnirostris*, *Chrysotis amazonica*, *Anodorhynchus hyacinthinus* and *Ara macao* (both regularly in couples), *Urubitinga zonura*, *Monasa nigra* and *M. morpheus* (frequent), *Ibycter americanus*, *Ceryle* div. spec., *Thryothorus genibarbis*, *Atticora fasciata*, *Tachycineta albiventris*, *Phlogopsis nigromaculata*, *Plotus anhinga*, *Crax fasciolata* ("Mutúm piníma"), and *Mitua mitu* ("Mutúm cavallo"), the "Mitú-été" of the Tembé Indians.

At "Tracuá-téua," some hours below the mouth of the Potyretá affluent, we made our third headquarters on descending. It is a locality as devoid of human creatures as all the others

in which we had fixed our stations. The exploration of the neighbouring lake, very long but not wide (as these lakes generally are, on both sides of the main river), which lay in the same direction as the Capim and was separated from it only by an elevation of some 80 metres, formed an agreeable task, to which we dedicated two days.

Here we obtained a full-grown Tapir and specimens of *Cairina moschata*, *Monasa nigra*, and *Ara macao*. Exceedingly common hereabouts during the night was the Giant Goatsucker (*Nyctibius jamaicensis*). During the day *Phlogopsis nigromaculata*, called "mãe da taóca," was often heard around our encampment in the forest. A brown-black middle-sized *Thamnophilus* was always crying "br-br-br" in the lower vegetation. On the declivity of a soft earth-wall on the side of a sort of artificial defile, where evidently in former times a way had been cut from the river to the lake, I discovered the entrance-hole of the subterranean breeding-quarters of the "Tangurú-pará" (*Monasa nigra*). Unfortunately I had no implements with me with which to dig out the gallery and nest, as I wished to do, in order to get an exact idea of their architectural structure.

On the 12th of July, at 5 o'clock P.M., we left "Tracuá-téua," rowing downwards the whole night and all the next day. We saw and heard *Columba plumbea*, *Aramides chiricote*, *Ibycter americanus*, *Falco rufigularis*, *Ardea virescens*, *Monasa nigra* (frequently), *Rhamphastus ariel* and *R. erythrorhynchus*, *Chrysotis amazonica*, *Pionias violaceus*, *Momotus brasiliensis*, and *Phlogopsis nigromaculata*. But the most interesting occurrence was a small flock of three individuals of *Hoplopterus spinosus* at Praia Granda on a sand-bank. I shot two of them, the third escaped.

Not far from the mouth of the affluent "Caudirú-açú," we noted *Ara macao*, *Parra jacana*, *Cathartes urubitinga*, *Ardea leuce*, and *Ceryle* of several species. On the whole I was surprised to see so few Herons along the Capim.

We reached São Luiz at 4.45 P.M. on the 13th of July, and remained there the next day. We had a bad night, with incessant rain, followed by an exceedingly hot day;

and it was certainly this unfortunate period of our expedition to which we owed the fevers brought home, which tormented us for several years afterwards. At this station we procured examples of *Pionias violaceus* (three), *Automolus sclateri*, *Momotus brasiliensis*, and *Rhamphocelus jacapa*. A welcome acquisition were three specimens of the most interesting, rare, and beautiful Parrot *Caica vulturina*, called "Periquito d'anta"—that is, "Tapir-Parrakeet."

At São Luiz I observed a yellow-breasted Trogon breeding in a white-ants' nest on a Genipapeiro-tree, some 15 feet from the ground. *Monasa nigra* was still frequent; *Momotus* was regularly heard in the morning and evening, as well as *Nyctibius*.

Near the island called Gipióca reappeared the first "Ciguanas" (*Opisthocomus cristatus*), characteristic of the lower river-zone only.

On the 15th of July, in the evening, we reached our base of operations—Approága. We had to remain there eight days; during the first three of which I endured sharp attacks of fever. On our return to Pará my companions were also struck down by fever, which obliged us to take a holiday, spent by Dr. H. Huber, our botanist, in Ceará, and by myself in Rio de Janeiro, though not with quite satisfactory results.

III. LIST OF THE BIRDS OF THE RIVER CAPIM.

<i>List of Birds observed by the author on the River Capim, June–July 1897.</i>	<i>List of Birds collected by Mr. A. R. Wallace on the River Capim in May–June 1849.</i>
---	--

+1. *Urubitinga schistacea*.

+2. — *zonura*.

+3. *Sarcorhamphus papa*.

+4. *Falco rufigularis*.

5. *Ibycter americanus*.

6. *Harpagus diodon*.

7. *Asturina magnirostris*.

8. *Cathartes urubitinga*.

9. — *urubu*.

10. *Milvago chimachina*.

+1. *Spizaëtus tyrannus*.